

IN THE CLAIMS:

Please cancel claims 1-8, 18, and 19. A complete listing of claims now pending appears below:

Claims **1-8** (cancelled).

9. (original) A method for preparing an organometallic complex useful for olefin polymerization, said method comprising:

(a) converting a pentacyclic diketone to a triquinane diene;
(b) doubly deprotonating the triquinane diene to produce a triquinane dianion;
and

(c) reacting the dianion with a transition metal source to give an organometallic complex that incorporates a chelating, dianionic triquinane ligand.

10. (original) The method of claim **9** wherein the pentacyclic diketone is produced by (a) reacting a cyclopentadiene and a p-benzoquinone to produce a Diels-Alder adduct; and (b) photolyzing the Diels-Alder adduct to effect a [2+2] cycloaddition reaction to give the pentacyclic diketone.

11. (original) The method of claim **9** wherein step (a) is accomplished by first heating the pentacyclic diketone to cause a [2+2] cycloreversion reaction to give a *cis,syn,cis*-triquinane bis(enone), followed by conversion of the bis(enone) to the triquinane diene.

12. (original) The method of claim **11** wherein the bis(enone) is converted to the triquinane diene by (a) reacting the bis(enone) with an arylhydrazine to produce an arylhydrazone; and (b) reducing the arylhydrazone to the diene by reacting it with an alkali metal cyanoborohydride or catecholborane.

13. (original) The method of claim **11** wherein the bis(enone) is converted to the triquinane diene by reacting it with a trialkylhydrosilane in the presence of a Lewis acid.

14. (original) The method of claim **9** wherein step (a) is accomplished by first converting the pentacyclic diketone to a pentacyclic hydrocarbon by reducing the carbonyl groups to methylene groups, and then heating the pentacyclic hydrocarbon to cause a [2+2] cycloreversion reaction to give the triquinane diene.

15. (original) The method of claim **9** wherein the pentacyclic diketone is homologated by reacting it with diazomethane prior to conversion to the triquinane diene.

16. (original) A method for preparing an organometallic complex useful for olefin polymerization, said method comprising:

(a) reacting a cyclopentadiene and a p-benzoquinone to produce a Diels-Alder adduct;

(b) photolyzing the Diels-Alder adduct to effect a [2+2] cycloaddition reaction to give a pentacyclic diketone;

(c) converting the pentacyclic diketone to a triquinane diene;

(d) doubly deprotonating the triquinane diene to produce a triquinane dianion;
and

(e) reacting the dianion with a transition metal source to give an organometallic complex that incorporates a chelating, dianionic triquinane ligand.

17. (original) The method of claim **16** wherein the Diels-Alder adduct is produced from cyclopentadiene and p-benzoquinone.

Claims **18-19** (cancelled).